



Notice to Lessees and Operators
of
Federal Oil and Gas Leases
in the
Outer Continental Shelf
Pacific Region

OCS ORDERS



UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY
CONSERVATION DIVISION

*Branch of Oil and Gas Operations
Pacific Region*

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION DIVISION
BRANCH OF OIL AND GAS OPERATIONS
PACIFIC REGION

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS
LEASES IN THE OUTER CONTINENTAL SHELF, PACIFIC REGION

MARKING OF WELLS, PLATFORMS, AND FIXED STRUCTURES

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.37. Section 250.37 provides as follows:

Well designations. The lessee shall mark promptly each drilling platform or structure in a conspicuous place, showing his name or the name of the operator, the serial number of the lease, the identification of the wells, and shall take all necessary means and precautions to preserve these markings.

The operator shall comply with the following requirements. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. Identification of Platforms or Fixed Structures. Platforms and structures shall be identified at two diagonal corners of the platform or structure by a sign with letters and figures not less than 12 inches in height with the following information: the name of lease operator, the OCS lease number and the platform or structure designation. The information shall be abbreviated as in the following example:

"The Blank Oil Company operates 'C' platform on lease OCS-P 0000".

The identifying sign on the platform would show:

"BOC - OCS-P 0000 - C"

2. Identification of Non-Fixed Platforms or Structures. Floating semi-submersible platforms, bottom-setting mobile and floating drilling ships shall be identified by one sign with letters and figures not less than 12 inches in height affixed to the derrick to be visible from off the vessel with the following information: the name of the lease operator and the OCS lease number.

3. Identification of Individual Wells on Platforms. The OCS lease and well number shall be painted on, or a sign affixed to, each singly completed well. In multiple completed wells each completion shall be individually identified at the wellhead. All identifying signs shall be maintained in a legible condition.

D.W. Solanas

D. W. Solanas
Supervisor

Approved: June 1, 1971

Russell G. Wayland

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Chief, Conservation Division

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DRILLING PROCEDURES

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.34, 250.41, and 250.91. All exploratory wells drilled for oil and gas shall be drilled in accordance with the provisions of this Order. Initial development wells drilled for oil and gas shall be drilled in accordance with the provisions of this Order, and these provisions shall continue in effect until field rules are issued. After field rules have been established by the Supervisor, development wells in the individual fields shall be drilled in accordance with such rules.

Where sufficient geologic and engineering information is obtained through exploratory drilling, operators may make application to the Supervisor for the establishment of field rules, but such applications shall be made before more than five development wells have been drilled in a field. When required by the Supervisor, operators shall make application for the establishment of field rules for existing fields containing more than five development wells on the date of this Order.

Each Application to Drill (Form 9-331C) for exploratory wells and development wells not covered by field rules shall include all information required under 30 CFR 250.91 and the detailed casing, cementing, mud, and blowout prevention program for the well and shall comply with the following requirements. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. Well Casing. All wells shall be cased and cemented in accordance with the requirements of 30 CFR 250.41(a)(1). The Application to Drill (Form 9-331C) shall contain a statement that all zones which contain oil, gas, or fresh water shall be fully protected by casing and cement. All casing strings shall be new pipe or equivalent. For the purpose of this Order, the several casing strings in order of normal installation are drive or structural casing, conductor casing, surface casing, intermediate casing, protective casing, and production casing. These casing strings shall be run and cemented prior to drilling below the specified setting depths, subject to minor variations to permit the casing to be set in a competent bed. All depths refer to true vertical depth (TVD) below the ocean floor, unless otherwise specified. Determination

of proper casing setting depths shall be based upon all geological and engineering factors including the presence or absence of hydrocarbons. Formation fracture gradients and formation pressures shall be taken into account.

- A. Drive or Structural Casing. This casing shall be set by drilling, driving, or jetting to a depth of approximately 100 feet below the ocean floor to support unconsolidated deposits and to provide hole stability for initial drilling operations. If drilled in, the drilling fluid shall be a type that will not pollute the ocean. This casing may be omitted, when approved by the Supervisor, if there is geological evidence that hydrocarbons will not be encountered while drilling the hole for the conductor casing and is not needed for hole stability.
- B. Conductor Casing. This casing shall be set at a minimum depth of 300 feet or a maximum depth of 500 feet below the ocean floor; provided, however, the conductor casing shall be set before drilling into shallow formations known to contain oil or gas or, if unknown, upon encountering such formations.
- C. Surface Casing. This casing shall be set at a minimum depth of 1,000 feet or a maximum depth of 1,200 feet below the ocean floor, but may be set as deep as 1,500 feet in the event the conductor casing is set at least 450 feet below the ocean floor.
- D. Intermediate Casing. This casing shall be set if the proposed total depth of the well is greater than 3,500 feet (TVD in feet from rotary table). When surface casing is set at 1,500 feet the intermediate casing may be omitted if the proposed total depth of the well is not greater than 4,500 feet. Otherwise, the intermediate casing shall be set before drilling below the setting depths specified in the following table:

Proposed Total Depth of Well or Proposed Depth of First Full String of Protective Casing (TVD in feet from Rotary Table)	Setting Depths for Intermediate Casing (TVD in Feet Below Ocean Floor)	
	Minimum	Maximum
3,500 - 4,500	1,500	3,500
4,500 - 6,000	1,750	3,500
6,000 - 9,000	2,250	3,500
9,000 - 11,000	2,750	3,500
11,000 - 13,000	3,250	3,500
13,000 - Below	3,450	3,550

- E. Protective Casing. When required by well conditions, this casing shall be set at any time when drilling below the surface casing. If a liner is used as a protective string, the lap shall be tested by a fluid entry or pressure test to determine whether a seal between the liner top and next larger string has been achieved. The test shall be recorded on the driller's log and shall be witnessed by a Geological Survey representative.
- F. Production Casing. This casing shall be set before completing the well for production. When a blank or combination liner is run and cemented as production casing, the testing of the lap between the liner top and next larger string shall be conducted as in the case of protective liners. The surface casing shall never be used as production casing.
- G. Casing Cementing. The structural (if drilled or jetted), conductor, and surface casings shall be cemented with a quantity sufficient to fill the annular space back to the ocean floor. The intermediate casing shall be cemented with a quantity sufficient to fill the annular space back to the ocean floor or at least 100 feet into the next larger string of pipe. The protective casing shall be cemented so that all hydrocarbon zones and abnormal pressure intervals are isolated. The production casing shall be cemented in a manner necessary to cover or isolate all zones which contain hydrocarbons and abnormal pressure intervals, but in any case, a calculated volume sufficient to fill the annular space at least 500 feet above the uppermost hydrocarbon zone, not previously cased, must be used. Whenever there are indications of improper cementing, such as lost circulation, cement channeling, or mechanical failure of equipment, a temperature or cement bond survey shall be run, either before or after remedial cementing, to aid in determining whether the casing is properly cemented. If the annular space is not adequately cemented by the primary operation, the operator shall either (1) recement, (2) squeeze the shoe of the casing with cement, either by drilling out and squeezing or by squeezing through perforations at the interval of competent formation nearest the shoe, or (3) displace with cement in sufficient quantity to fill the annular space. Upon determining that the casing shoe has been

adequately cemented the operator may commence further drilling operations provided that prior to abandonment of the well the annular space behind the conductor, surface, and intermediate casings shall be cemented back to the ocean floor or 100 feet into the next larger string of pipe.

- H. Pressure Testing. Prior to drilling the plug after cementing, all casing strings, except the drive or structural casing, shall be pressure tested as shown in the table below. This test shall not exceed the rated working pressure of the casing. If the pressure declines more than 10 percent in 30 minutes, or if there is other indication of a leak, corrective measures must be taken until a satisfactory test is obtained.

<u>Casing String</u>	<u>Minimum Pressure Test (psi)</u>
Conductor	200
Surface and Intermediate	1,000
Protective	1,500 or 0.2 psi/ft., whichever is greater
Liner	1,500 or 0.2 psi/ft., whichever is greater
Production	1,500 or 0.2 psi/ft., whichever is greater

After cementing any of the above strings, drilling shall not be commenced until a time lapse of:

- (1) 24 hours, or
- (2) 8 hours under pressure for the conductor casing string and 12 hours under pressure for all other casing strings. (Cement is considered under pressure if one or more float valves are employed and are shown to be holding the cement in place or when other means of holding pressure are used.)

All casing pressure tests shall be recorded on the driller's log.

2. Blowout Prevention Equipment. Blowout preventers and related well control equipment shall be installed, used, and tested in a manner necessary to prevent blowouts. Prior to drilling below the conductor casing, blowout prevention equipment shall be installed and maintained ready for use until drilling operations are completed as follows:

- A. Conductor Casing. Before drilling below this string, at least one remotely controlled hydril type blowout preventer and equipment for circulating the drilling fluid to the drilling structure or vessel shall be installed. To avoid formation fracturing from complete shut-in of the well, a pipe of adequate diameter with control valves shall be installed below the blowout preventer so as to permit the diversion of hydrocarbons and other fluids; except that when the blowout preventer assembly is on the ocean floor, the choke and kill lines shall be equipped to permit the diversion of hydrocarbons and other fluids.
- B. Surface Casing. Before drilling below this string the blowout prevention equipment shall include a minimum of:
- (1) three remotely controlled, hydraulically operated blowout preventers with a rated working pressure which exceeds the maximum anticipated surface pressure, including one equipped with pipe rams, one with blind rams, and one hydril type;
 - (2) a drilling spool with side outlets, if side outlets are not provided in the blowout preventer body;
 - (3) a choke manifold;
 - (4) a kill line; and
 - (5) a fill-up line.
- C. Intermediate Casing. Before drilling below this string the blowout prevention equipment shall include a minimum of:
- (1) four remotely controlled, hydraulically operated blowout preventers with a rated working pressure which exceeds the maximum anticipated surface pressure, including at least one equipped with pipe rams, one with blind rams, and one hydril type;
 - (2) a drilling spool with side outlets, if side outlets are not provided in the blowout preventer body;

(3) a choke manifold;

(4) a kill line; and

(5) a fill-up line.

D. Testing. Ram-type blowout preventers and related control equipment shall be tested to the rated working pressure of the stack assembly or to the working pressure of the casing, whichever is the lesser, at the following times:

(1) when installed;

(2) before drilling out after each string of casing is set;

(3) not less than once each week while drilling;
and

(4) following repairs that require disconnecting a pressure seal in the assembly. The hydril type blowout preventer shall be tested to 70 percent of the above pressure requirements.

While drill pipe is in use ram-type blowout preventers shall be actuated to test proper functioning once each trip, but in no event less than once each day. The hydril type blowout preventer shall be actuated on the drill pipe once each week. Accumulators or accumulators and pumps shall maintain a reserve capacity at all times to provide for repeated operation of hydraulic preventers. A blowout prevention drill shall be conducted weekly for each drilling crew to insure that all equipment is operational and that crews are properly trained to carry out emergency duties. All blowout preventer tests and crew drills shall be recorded on the driller's log.

E. Other Equipment. An inside blowout preventer assembly (back pressure valve) and a full opening drill string safety valve in the open position shall be maintained on the rig floor at all times while drilling operations are being conducted. Valves shall be maintained on the rig floor to fit all pipe in the drill string. Also, a socket type, sealing coupling capable of being dropped

over exposed drill pipe with a full opening safety valve above it shall be maintained on the rig floor for control situations where flow prevents installation of a safety valve. A top kelly cock shall be installed below the swivel and another at the bottom of the kelly of such design that it can be run through the blowout preventers.

3. Mud Program - General. The characteristics, use, and testing of drilling mud and the conduct of related drilling procedures shall be such as are necessary to prevent the blowout of any well. Quantities of mud materials sufficient to insure well control shall be maintained readily accessible for use at all times.

- A. Mud Control. Before starting out of the hole with drill pipe, the mud shall be circulated with the drill pipe just off bottom until the mud is properly conditioned. Proper conditioning requires, at a minimum, circulation to the extent that the annulus volume is displaced. When coming out of the hole with drill pipe, the annulus shall be filled with mud before the mud level drops below 100 feet, and a mechanical device for measuring the amount of mud required to fill the hole shall be utilized. The volume of mud required to fill the hole shall be watched, and any time there is an indication of swabbing or influx of formation fluids, the necessary safety device(s) required in subparagraph 2.E. above shall be installed on the drill pipe, the drill pipe shall be run to bottom and the mud properly conditioned. The mud shall not be circulated and conditioned except on or near bottom, unless well conditions prevent running the pipe to bottom. The mud in the hole shall be circulated or reverse circulated prior to pulling drill stem test tools from the hole.
- B. Mud Testing Equipment. Mud testing equipment shall be maintained on the drilling platform at all times, and mud tests consistent with good operating practice shall be performed daily, or more frequently as conditions warrant.

The following mud system monitoring equipment must be installed (with derrick floor indicators) and used throughout the period of drilling after setting and cementing the conductor casing:

- (1) Recording mud pit level indicator to determine mud pit volume gains and losses. This indicator shall include a visual or audio warning device.
- (2) Mud volume measuring device for accurately determining mud volumes required to fill the hole on trips.
- (3) Mud return or full hole indicator to determine when returns have been obtained, or when they occur unintentionally, and additionally to determine that returns essentially equal the pump discharge rate.

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Supervisor

Approved: June 1, 1971

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Chief, Conservation Division

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NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS
LEASES IN THE OUTER CONTINENTAL SHELF, PACIFIC REGION

PLUGGING AND ABANDONMENT OF WELLS

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.15. The operator shall comply with the following minimum plugging and abandonment procedures which have general application to all wells drilled for oil and gas. Plugging and abandonment operations must not be commenced prior to obtaining approval from an authorized representative of the Geological Survey. Oral approvals shall be in accordance with 30 CFR 250.13. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. Permanent Abandonment.

- A. Isolation in Uncased Hole. In uncased portions of wells, cement plugs shall be spaced to extend 100 feet below the bottom to 100 feet above the top of any oil, gas, and fresh water zones so as to isolate fluids in the strata in which they are found and to prevent them from escaping into other strata.
- B. Isolation of Open Hole. Where there is open hole (uncased and open into the casing string above) below the casing, a cement plug shall be placed in the deepest casing string by (1) or (2) below, or in the event lost circulation conditions exist or are anticipated, the plug may be placed in accordance with (3) below:
 - (1) A cement plug placed by displacement method so as to extend a minimum of 100 feet above and 100 feet below the casing shoe.
 - (2) A cement retainer with effective back pressure control set not less than 50 feet, nor more than 100 feet, above the casing shoe with a cement plug calculated to extend at least 100 feet below the casing shoe and 50 feet above the retainer.

- (3) A permanent type bridge plug set within 150 feet above the casing shoe with 50 feet of cement on top of the bridge plug. This plug shall be tested prior to placing subsequent plugs.

- C. Plugging or Isolating Perforated Intervals. A cement plug shall be placed opposite all open perforations (perforations not squeezed with cement) extending a minimum of 100 feet above and 100 feet below the perforated interval or down to a casing plug whichever is less. In lieu of the cement plug, a bridge plug set at a maximum of 150 feet above the open perforations of each separate interval with 50 feet of cement on top may be used provided the perforations are isolated from the hole below.
- D. Plugging of Casing Stubs. If casing is cut and recovered, thereby leaving a stub inside the next larger string, a cement plug will be set so as to extend 100 feet above and 100 feet below the stub, or a retainer set 50 feet above the stub with 150 feet of cement set below and 50 feet above. A permanent bridge plug set 50 feet above the stub and capped with 50 feet of cement shall be used if the foregoing methods cannot be used. However, if the stub is below the next larger string, plugging must be accomplished in accordance with subparagraph A and B above.
- E. Plugging of Annular Space. No annular space that extends to the ocean floor shall be left open to drilled hole below. If this condition exists, the annulus shall be plugged with cement.
- F. Surface Plug Requirement. A cement plug of at least 150 feet, with the top of the plug 150 feet or less below the ocean floor, shall be placed in the smallest string of casing which extends to the surface.
- G. Testing of Plugs. The setting and location of the first plug below the 150-foot surface plug shall be verified by placing the weight of the drill string or a minimum pipe weight of 15,000 pounds on the plug, whichever is greater. The top of plugs placed opposite open hole or perforations shall be verified as to location.

- H. Mud. Each of the respective intervals of the hole between the various plugs shall be filled with mud fluid of sufficient density to exert hydrostatic pressure exceeding the greatest formation pressure encountered while drilling such interval.
- I. Clearance of Location. All casing and anchor piling shall be severed and removed to at least 5 feet below the ocean floor and the ocean floor shall be cleared of any obstructions.
2. Temporary Abandonments. Any drilling well which is to be temporarily abandoned shall be mudded and cemented as required for permanent abandonment except for requirements of subparagraphs 1.E., F., and I. above. When casing extends above the ocean floor, a mechanical bridge plug (retrievable or permanent) shall be set in the casing between 15 and 200 feet below the ocean floor.

D.W. Solanas

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Supervisor

Approved: June 1, 1971

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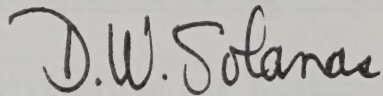
SUSPENSIONS AND DETERMINATION OF WELL PRODUCIBILITY

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.12(d)(1). An OCS lease provides for extension beyond its primary term for as long as oil or gas may be produced from the lease in paying quantities. The term "paying quantities" as used herein means production in quantities sufficient to yield a return in excess of operating costs. An OCS lease may be maintained beyond the primary term, in the absence of actual production, when a suspension of production has been approved. Any application for suspension of production for an initial period shall be submitted prior to the expiration of the term of a lease. The Supervisor may approve a suspension of production provided at least one well has been drilled on the lease and he determines it to be capable of being produced in paying quantities. The temporary or permanent abandonment of a well will not preclude approval of a suspension of production as provided in 30 CFR 250.12(d)(1). Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

A well may be determined to be capable of producing in paying quantities when the requirements below have been met.

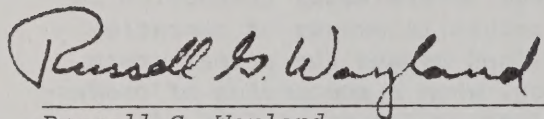
1. Oil Wells. A deliverability test of at least two hours' duration after the well flow has stabilized which proves that the well is capable of producing oil in paying quantities.
2. Gas Wells. A four-point back pressure test or a measured deliverability test of at least two hours' duration after the well flow has stabilized which proves that the well is capable of producing gas or gas and condensate in paying quantities.

3. Witnessing and Results. All tests must be witnessed by an authorized representative of the Geological Survey. Test data accompanied by operator's affidavit, or third-party test data, may be accepted in lieu of a witnessed test provided prior approval is obtained from the appropriate district office. The results of the witnessed or accepted test must justify a determination that the well is capable of producing in paying quantities.



D. W. Solanas
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Approved: June 1, 1971



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INSTALLATION OF SUBSURFACE SAFETY DEVICE

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.41(b). Section 250.41(b) provides as follows:

- (b) Completed wells. In the conduct of all its operations, the lessee shall take all steps necessary to prevent blowouts, and the lessee shall immediately take whatever action is required to bring under control any well over which control has been lost. The lessee shall: (1) in wells capable of flowing oil or gas, when required by the supervisor, install and maintain in operating condition storm chokes or similar subsurface safety devices; (2) for producing wells not capable of flowing oil or gas, install and maintain surface safety valves with automatic shut-down controls; and (3) periodically test or inspect such devices or equipment as prescribed by the supervisor.

The operator shall comply with the following requirements. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. All wells capable of flowing oil or gas shall be equipped with a subsurface safety device installed at a depth of 100 feet or more below the ocean floor. Such device shall be installed in all oil and gas wells, including artificial lift wells, unless proof is provided to the Supervisor that such wells are incapable of any natural flow. For shut-in wells capable of flowing oil or gas, a tubing plug may be installed, in lieu of a subsurface safety device, and such plug shall be installed when required by the Supervisor.
2. Subsurface safety devices shall be adjusted, installed, and maintained to insure reliable operation. Each subsurface safety device and tubing plug installed in a well shall be

tested at intervals not exceeding 6 months. Where a safety valve is set in a landing nipple and is of the type that is controlled from the surface by a hydraulic line or other means, the valve may be tested from the surface to insure proper functioning. If the valve does not operate properly it shall be removed, repaired, reinstalled or replaced and again checked for proper operation.

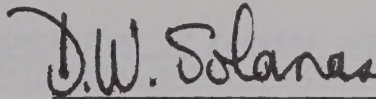
When a subsurface safety device is removed from a well for repair or replacement, a standby subsurface safety device or tubing plug shall be available at the well location. In the event of an emergency such device shall be immediately installed within the limits of practicability, consideration being given to time, equipment, and personnel safety.

Subsurface safety devices that are an integral part of the tubing string shall be tested at intervals not exceeding six months and, if the test is unsatisfactory, shall be replaced or a removable subsurface device shall be installed.

All wells in which a subsurface safety device or tubing plug is installed shall have the tubing-casing annulus sealed below the valve or plug setting depth.

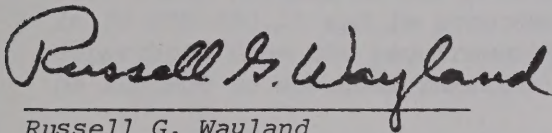
3. In all tubing installations made after the **effective** date of this Order, the tubing string shall be equipped with a surface-controlled subsurface safety device. In high-flow-rate wells or wells producing sand, areas of turbulence above and below such devices shall be protected by flow couplings or other protective equipment. Wells which are presently equipped with direct-controlled subsurface safety devices shall have surface-controlled subsurface safety devices installed the first time the tubing is pulled after the effective date of this Order, or within one year after the effective date of this Order, whichever occurs sooner. The control system for the surface-controlled subsurface safety devices shall be an integral part of the platform shut-in system.
4. The well completion report on Form 9-330 and any subsequent report of workover on Form 9-331 shall state the type and the depth of the subsurface safety device or tubing plug installed in the well or state that the requirement has been waived.

5. The operator shall maintain records, available at a structure in the field to any authorized representative of the Geological Survey, showing the present status and past history of each subsurface safety device or tubing plug, including dates and details of inspection, testing, repairing, adjustment and reinstallation or replacement. The operator shall submit a copy of such records semiannually to the District Engineer.



D. W. Solanas
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Approved: June 1, 1971



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PROCEDURE FOR COMPLETION OF OIL AND GAS WELLS

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.92. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. Wellhead Equipment and Testing Procedures.

- A. Wellhead Equipment. All completed wells shall be equipped with casingheads, wellhead fittings, valves, and connections with a rated working pressure equal to or greater than the surface shut-in pressure of the well. Connections and valves shall be designed and installed to permit fluid to be pumped between any two strings of casing. Two master valves shall be installed on the tubing in wells with a surface pressure in excess of five thousand pounds per square inch. All wellhead connections shall be assembled and tested, prior to installation, by a fluid pressure which shall be equal to 1.5 times the rated working pressure of the fitting to be installed.
- B. Testing Procedure. Any wells showing sustained pressure on the casinghead, or leaking gas or oil between the production casing and the next larger casing string, shall be tested in the following manner: The well shall be killed with water or mud and pump pressure applied to the production casing string. Should the pressure at the casinghead reflect the applied pressure, corrective measures must be taken and the casing shall again be tested in the same manner. This testing procedure shall be used when the origin of the pressure cannot be determined otherwise.

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2. Subsurface Safety Device. All completed wells shall meet the requirements prescribed in OCS Order No. 5.

3. Procedures for Multiple or Tubingless Completions.

A. Multiple Completions.

- (1) Information shall be submitted on, or attached to, Form 9-331 showing top and bottom of all zones proposed for completion or alternate completion, including a partial electric log and a diagrammatic sketch showing such zones and equipment to be used.
- (2) When zones approved for multiple completion become intercommunicated the lessee shall immediately repair and separate the zones after approval is obtained.

B. Tubingless Completions.

- (1) All tubing strings in a multiple completed well shall be run to the same depth below the deepest producible zone.
- (2) The tubing string(s) shall be new pipe or equivalent and shall be cemented with a sufficient volume to extend a minimum of 500 feet above the uppermost producible zone.
- (3) A temperature or cement bond log shall be run in all tubingless completion wells where lost circulation or other unusual circumstances occur during the cementing operations.
- (4) Information shall be submitted on, or attached to, Form 9-331 showing the top and bottom of all zones proposed for completion or alternate completion, including a partial electric log and a diagrammatic sketch showing such zones and equipment to be used.

D.W. Solanas

D. W. Solanas
Supervisor

Approved: June 1, 1971

Russell G. Wayland

Russell G. Wayland
Chief, Conservation Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION DIVISION
BRANCH OF OIL AND GAS OPERATIONS
PACIFIC REGION

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS
LEASES IN THE OUTER CONTINENTAL SHELF, PACIFIC REGION

POLLUTION AND WASTE DISPOSAL

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.43. Section 250.43 provides as follows:

- (a) The lessee shall not pollute land or water or damage the aquatic life of the sea or allow extraneous matter to enter and damage any mineral- or water-bearing formation. The lessee shall dispose of all liquid and non-liquid waste materials as prescribed by the supervisor. All spills or leakage of oil or waste materials shall be recorded by the lessee and, upon request of the supervisor, shall be reported to him. All spills or leakage of a substantial size or quantity, as defined by the supervisor, and those of any size or quantity which cannot be immediately controlled also shall be reported by the lessee without delay to the supervisor and to the Coast Guard and the Regional Director of the Federal Water Pollution Control Administration. All spills or leakage of oil or waste materials of a size or quantity specified by the designee under the pollution contingency plan shall also be reported by the lessee without delay to such designee.
- (b) If the waters of the sea are polluted by the drilling or production operations conducted by or on behalf of the lessee, and such pollution damages or threatens to damage aquatic life, wildlife, or public or private property, the control and total removal of the pollutant, wheresoever found, proximately resulting therefrom shall be at the expense of the lessee. Upon failure of the lessee to control and remove the pollutant the supervisor, in cooperation with other appropriate agencies of the Federal, State and local governments, or in cooperation with the lessee, or both, shall have the right to accomplish the control and removal of the pollutant in accordance with any established contingency plan for combating oil spills or by other means at the cost of the lessee. Such action shall not relieve the lessee of any responsibility as provided herein.

- (c) The lessee's liability to third parties, other than for cleaning up the pollutant in accordance with paragraph (b) of this section, shall be governed by applicable law.

The operator shall comply with the following requirements. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. Pollution Prevention. In the conduct of all oil and gas operations, the operator shall not pollute land or water. The operator shall comply with the following pollution prevention requirements.

A. Liquid Disposal.

- (1) The disposal of produced waste water and sewage shall be in accordance with the provisions of OCS Order No. 8.
- (2) Oil shall not be disposed of into ocean waters.
- (3) Liquid waste materials containing substances which may be harmful to aquatic life or wildlife, or injurious in any manner to life or property, shall be treated to avoid disposal of harmful substances into the ocean waters.
- (4) Drilling mud containing oil or toxic substances shall not be disposed of into the ocean waters.

B. Solid Waste Disposal.

- (1) Drill cuttings, sand, and other solids containing oil shall not be disposed of into the ocean waters.
- (2) Mud containers and other solid waste materials shall be transported to shore for disposal.

C. Production Facilities.

- (1) All production facilities, such as separators, tanks, treaters, and other equipment, shall be operated and maintained at all times in a manner necessary to prevent pollution.

- (2) The operator's personnel shall be thoroughly instructed in the techniques of equipment maintenance and operation for the prevention of pollution. Non-operator personnel shall be informed in writing, prior to executing contracts, of the operator's obligations to prevent pollution.

2. Inspections and Reports. The operator shall comply with the following pollution inspection and reporting requirements and operators shall comply with such instructions or orders as are issued by the Supervisor for the control or removal of pollutants:

A. Pollution Inspections.

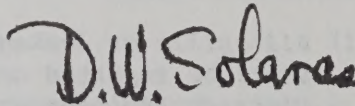
- (1) Manned drilling and production facilities shall be inspected daily to determine if pollution is occurring. Such maintenance or repairs as are necessary to prevent pollution of ocean waters shall be immediately undertaken and performed.
- (2) Unattended facilities, including those equipped with remote control and monitoring systems, shall be inspected at intervals as prescribed by the District Engineer and necessary maintenance or repairs immediately made thereto.

B. Pollution Reports.

- (1) All spills or leakage of oil and liquid pollutants shall be reported orally without delay to the District Engineer and the Coast Guard and shall be followed by a written report to the District Engineer showing the cause, size of spill, and action taken.
- (2) All spills or leakage of oil and liquid pollutants of a substantial size or quantity and those of any size or quantity which cannot be immediately controlled, shall be reported orally without delay to the Supervisor, the District Engineer, the Coast Guard, and the Regional Director, Environmental Protection Agency.
- (3) Operators shall notify each other upon observation of equipment malfunction or pollution resulting from another's operation.

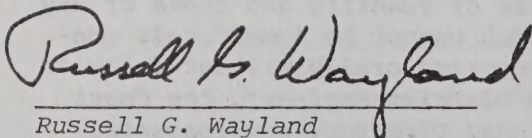
3. Control and Removal.

- A. Corrective Action. Immediate corrective action shall be taken in all cases where pollution has occurred. Each operator shall have an emergency plan for initiating corrective action to control and remove pollution and such plan shall be filed with the Supervisor. Corrective action taken under the plan shall be subject to modification when directed by the Supervisor.
- B. Equipment. Standby pollution control equipment shall be maintained at each operation or shall be immediately available to each operator at an onshore location. This equipment shall include, but need not be limited to, containment booms, skimming apparatus, and chemical dispersants and shall be available prior to the commencement of operations. This equipment shall be the most effective available resulting from the current state of pollution control and removal research and development efforts. The equipment shall be regularly inspected and maintained in good condition for use. The equipment and the location of land bases shall be approved by the Supervisor. Chemical dispersants shall not be used without prior approval of the Supervisor. The operator shall notify the Supervisor of the location at which such equipment is located for operations conducted on each lease. All changes in location and equipment maintained at each location shall be approved by the Supervisor.



D. W. Solanas
Supervisor

Approved: June 1, 1971



Russell G. Wayland
Chief, Conservation Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION DIVISION
BRANCH OF OIL AND GAS OPERATIONS
PACIFIC REGION

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS
LEASES IN THE OUTER CONTINENTAL SHELF, PACIFIC REGION

APPROVAL PROCEDURE FOR INSTALLATION AND OPERATION OF PLATFORMS,
FIXED AND MOBILE STRUCTURES, AND ARTIFICIAL ISLANDS

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.19(a). Section 250.19(a) provides as follows:

- (a) The supervisor is authorized to approve the design, other features, and plan of installation of all platforms, fixed structures, and artificial islands as a condition of the granting of a right of use or easement under paragraph (a) or (b) of section 250.18 or authorized under any lease issued or maintained under the Act.

Platforms, fixed structures and artificial islands are hereinafter referred to as structures. The operator shall be responsible for compliance with the requirements of this Order in the installation and operation of all platforms, fixed and mobile structures, and artificial islands, including all facilities installed on a structure whether or not operated or owned by the operator. The requirements of subparagraphs 2.A.(3), (4), (8), and (9) of this Order shall apply to all mobile drilling structures used to conduct drilling or workover operations on Federal leases in the Pacific Region.

Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. The following requirements are applicable to all structures approved and installed subsequent to the effective date of this Order, and to all structures when structural and equipment modifications are to be made:

- A. General Design. The design of structures shall include consideration of such factors as water depth, surface

and subsurface soil conditions, wave and current forces, wind forces, total equipment weight, seismic forces, and other pertinent geological, geographical, environmental, and operational conditions. At the discretion of the Supervisor, the operator may first obtain preliminary approval of the design of the structure by submitting general specifications which will demonstrate that a satisfactory installation can be designed. The operator may then proceed with detailed design work for final approval which shall comply with the requirements listed below.

B. Application. The operator shall submit in duplicate, for approval, the following to the appropriate District Office.

(1) Design Features. Information relative to design features on a plat or plats showing the structure dimensions, plan and two elevations, number and location of well slots, and water depth. In addition, the plat shall include:

- (a) Nominal size and thickness range of piling.
- (b) Nominal size and thickness range of jacket column leg.
- (c) Nominal size and thickness range of deck column leg.
- (d) Design piling penetration.
- (e) Maximum bearing and lateral load per pile in tons.
- (f) Identification data which shall be the OCS lease number, the structure designation, and the name of the lease operator.
- (g) The following certification signed and dated with the title of the company representative:

" _____ certifies that this structure has been certified by a registered professional engineer and that the structure is designed to withstand the specific stresses and conditions outlined in subparagraph 1.A. and as detailed in subparagraph 1.B.(2)(g) of OCS Order No. 8 and will be constructed, operated, and maintained as described in the application, and any approved modification thereto. Certified plans are on file at _____."

(2) Other Features. Information relative to other features including the following:

- (a) Primary use intended, including drilling and/or production of oil and gas.
- (b) Personnel and personnel transfer facilities, including living quarters, boat landings, and heliport.
- (c) Type of deck, such as steel sheeting or open grating,, and whether coated with protective material.
- (d) Method of protection from corrosion.
- (e) Production facilities including separators, treaters, storage tanks, compressors, line pumps, and metering devices, except that when initially designed and utilized for drilling, this information may be submitted prior to installation.
- (f) Safety and pollution control equipment and features.
- (g) The design parameters used and the maximum stresses for which designed in terms of the specific forces and conditions outlined in subparagraph 1.A. above.
- (h) Other information when required.

C. Certified Plan. Detailed structural plans certified by a registered professional engineer shall be on file and maintained by the operator or his designee.

2. Safety and Pollution Control Equipment and Procedures.

A. The following requirements shall apply to all structures. Subparagraphs 2.A.(3), (4), (8), and (9) shall also apply to mobile drilling structures. Operators of existing structures, including mobile drilling structures, shall have 90 days from the date of this Order in which to comply with the requirements of subparagraphs 2.A.(1) through (8) and one year in which to comply with subparagraph 2.A.(9).

- (1) The following devices shall be installed and maintained in an operating condition on all pressurized vessels and water separation facilities when such vessels and separation facilities are in service. The operator shall maintain records on the structure or facility showing the present status and past history of each such device including

dates and details of inspection, testing, repairing, adjustment, and reinstallation or replacement.

- (a) All separators shall be equipped with high-low pressure shut-in sensors, low level shut-in controls, and a relief valve. High liquid level control devices shall be installed when the vessel can discharge to a gas vent line.
- (b) All pressure surge tanks shall be equipped with a high and low pressure shut-in sensor, a high level shut-in control, gas vent line, and relief valve.
- (c) Atmospheric surge tanks shall be equipped with a high level shut-in sensor.
- (d) All other hydrocarbon handling pressure vessels shall be equipped with high-low pressure shut-in sensors, high-low level shut-in controls, and relief valves, unless they are determined by the Supervisor to be otherwise protected.
- (e) Pilot-operated pressure relief valves shall be equipped to permit testing with an external pressure source. Spring-loaded pressure relief valves shall either be bench-tested or equipped to permit testing with an external pressure source. A relief valve shall be set no higher than the designed working pressure of the vessel. The high pressure shut-in sensor shall be set no higher than 5% below the rated or designed working pressure and the low pressure shut-in sensor shall be set no lower than 10% below the lowest pressure in the operating pressure range on all vessels with a rated or designed working pressure of more than 400 psi. On lower pressure vessels the above percentages shall be used as guidelines for sensor settings considering pressure and operating conditions involved; except that sensor settings shall not be within 5 psi of the rated or designed working pressure or the lowest pressure in the operating pressure range.

- (f) All pressure-operated sensors shall be equipped to permit testing with an external pressure source.
 - (g) All gas vent lines shall be equipped with a scrubber or similar separation equipment.
- (2) The following devices shall be installed and maintained in an operating condition at all times when the affected well (or wells) is producing. The operator shall maintain records on the structure or facility showing the present status and past history of each such device, including dates and details of inspection, testing, repairing, adjustment, and reinstallation or replacement.
- (a) All well head assemblies shall be equipped with an automatic fail-close valve. Automatic safety valves temporarily out of service shall be flagged.
 - (b) All flowlines from wellheads shall be equipped with high-low pressure sensors located close to the wellhead. The pressure sensors shall be set to activate the wellhead valve in the event of abnormal pressures in the flowline.
 - (c) All headers shall be equipped with check valves on the individual flowlines. The flowline and valves from each well located upstream of, and including, the header valves shall withstand the shut-in pressure of that well, unless protected by a relief valve with connections to bypass the header. If there is an inlet valve to a separator, the valve, flowline, and all equipment upstream of the valve shall also withstand shut-in wellhead pressure, unless protected by a relief valve with connections to bypass the header.
 - (d) All pneumatic, hydraulic, and other shut-in control lines shall be equipped with fusible material at strategic points.
 - (e) Remote shut-in controls shall be located on the helicopter deck and all exit stairway landings leading to the helicopter deck and to all boat landings. These controls shall be quick-operating devices.
 - (f) All pressure sensors shall be operated and tested for proper pressure settings monthly

for at least four months. At such time as the monthly results are consistent, a quarterly test shall be required for at least one year. If these results are consistent, a longer period of time between testing may then be approved by the Supervisor. In the event any testing sequence reveals inconsistent results, the monthly testing sequence shall be reinstituted. Results of all tests shall be recorded and maintained on a structure in the field.

- (g) All automatic wellhead safety valves shall be tested for operation weekly. All automatic wellhead safety valves shall be tested for holding pressure monthly. If these results are consistent, a longer period of time between pressure tests, not to exceed quarterly, may then be approved by the Supervisor. In the event that any pressure testing sequence, exceeding monthly, reveals inconsistent results, the monthly testing sequence shall be reinstituted. Results of all tests shall be recorded and maintained on a structure in the field.
- (h) Check valves shall be tested for holding pressure monthly for at least four months. At such time as the monthly results are satisfactory, a quarterly test shall be required for at least one year. If these results are consistent, a longer period of time between testing may then be approved by the Supervisor. In the event any testing sequence reveals inconsistent results, the monthly testing sequence shall be reinstituted. Results of all tests shall be recorded and maintained on a structure in the field.
- (i) A complete testing and inspection of the safety system shall be witnessed by Geological Survey representatives at the time production is commenced. Thereafter, the operator shall arrange for a test every six months. The test shall be conducted when it can be witnessed by Geological Survey representatives.

- (j) A standard procedure for testing of safety equipment shall be prepared and posted in a prominent place on the platform.
- (3) Curbs, gutters, and drains shall be constructed and maintained in good condition in all deck areas in a manner necessary to collect all contaminants, unless drip pans or equivalent are placed under equipment and piped to a sump which will automatically maintain the oil at a level sufficient to prevent discharge of oil into the ocean waters. Alternate methods to obtain the same results may be approved by the Supervisor. These systems shall not permit spilled oil to flow into the wellhead area.
- (4) An auxiliary electrical power supply shall be installed to provide emergency power capable of operating all electrical equipment required to maintain safety of operation in the event the primary electrical power supply fails.
- (5) The following requirements shall apply to the handling and disposal of all produced waste water discharged into the ocean waters overlying the submerged lands of the OCS. The disposal of waste water other than into these waters shall be approved by the Supervisor.
 - (a) Water discharged shall not create conditions which will adversely affect the public health or the use of the waters for the propagation of aquatic life, recreation, navigation, or other legitimate uses.
 - (b) Waste water disposal systems shall be designed and maintained to reduce the oil content of the disposed water to not more than fifty ppm. An effluent sampling station shall be located at a point prior to discharge into the receiving waters where a representative sample of the treated effluent can be obtained. On one day each month the effluent shall be sampled hourly for 8 hours and the following determinations shall be made on the composite sample: suspended solids, settleable solids, pH, total oil and grease content, and volume of sample obtained. Also the temperature of each hourly sample shall be recorded. All

samples shall be taken and all analyses for oil and grease content shall be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association, Inc. The Supervisor may approve different methods for determination of oil and grease content if the method to be used is indicated to be reliable. A written report of the results shall be furnished to the Regional Office monthly. The report shall contain dates, time and location of sample, volumes of waste discharge on the date of sampling in barrels per day, and the results of the specific analysis and physical observations. A visual inspection of the appearance of the receiving waters in the discharge area shall be made daily and the results recorded and included in the monthly report.

(6) A firefighting system shall be installed and maintained in an operating condition in accordance with the following:

- (a) A fixed automatic water spray system shall be installed in all wellhead areas. These systems shall be installed in accordance with the current edition of National Fire Protection Association's Pamphlet No. 15.
- (b) A firewater system of rigid pipe with fire hose stations shall be installed and may include a fixed water spray system. Such a system shall be installed in a manner necessary to provide needed protection in areas where production handling equipment is located. A firefighting system using chemicals may be considered for installation in certain areas in lieu of a firewater system in that area, if determined by the Supervisor to provide equivalent fire protection control.
- (c) Pumps for the firewater systems shall be test-operated weekly. A record of the tests shall be maintained on a structure in the field and submitted semi-annually to the District Office. An alternate fuel or power source shall be installed to provide continued pump operation during platform shutdown unless an alternate firefighting system is provided.

- (d) Portable fire extinguishers shall be located in the living quarters and in other strategic areas.
 - (e) A diagram of the firefighting system showing the location of all equipment shall be posted in a prominent place on the structure and a copy submitted to the District Office.
- (7) An automatic gas detector and alarm system shall be installed and maintained in an operating condition in accordance with the following:
- (a) Gas detection systems shall be installed in all enclosed areas containing gas handling facilities or equipment and in other enclosed areas which are classified as hazardous areas as defined in API RP 500 A and B and the current edition of the National Electric Code.
 - (b) All gas detection systems shall be capable of continuously monitoring for the presence of combustible gas in the areas in which the detection devices are located.
 - (c) The central control shall be capable of giving an alarm at a point not higher than 60 percent of the lower explosive limit.
 - (d) The central control shall automatically activate shut-in sequences and emergency equipment at a point not higher than 90% of the lower explosive limit.
 - (e) An application for the installation and maintenance of any gas detection system shall be filed with the appropriate District Office for approval. The application shall include the following:
 - (i) Type, location, and number of detection or sampling heads.
 - (ii) Cycling, non-cycling, and frequency information.
 - (iii) Type and kind of alarm including emergency equipment to be activated.

- (iv) Method used for detection of combustible gas.
 - (v) Method and frequency of calibration.
 - (vi) A diagram of the gas detection system.
 - (vii) Other pertinent information.
- (f) A diagram of the gas detection system showing the location of all gas detection points shall be posted in a prominent place on the structure.
- (8) The following requirements shall be applicable to all electrical equipment and systems installed:
- (a) All gas and gasoline engines shall be equipped with low-tension ignition systems containing rigid connections and shielded wiring which shall prevent the release of sufficient electrical energy under normal or abnormal conditions to cause ignition of a combustible mixture.
 - (b) All electrical generators, motors, and lighting systems shall be installed, protected, and maintained in accordance with the current edition of the electrical code of the adjacent State, National Electric Code, and API RP 500 A and B, as appropriate. On mobile drilling structures, certificated by the Coast Guard, this equipment shall be installed, protected, and maintained in accordance with the applicable provisions of 46 CFR 110 through 113, inclusive.
 - (c) Marine-armored cable or metal-clad cable may be substituted for wire in conduit in any area.
- (9) Sewage disposal systems shall be installed and maintained in satisfactory operating condition in all cases where sewage is discharged into the ocean waters. Sewage is defined as human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes. Following sewage treatment, the effluent shall contain 50 ppm or less of biochemical oxygen demand (BOD), 150 ppm or less of suspended solids, and shall have a minimum chlorine residual

of 1.0 mg/liter after a minimum retention time of fifteen minutes. Sewage treatment records shall be maintained and made available for inspection upon request. The records shall reflect the results of monthly tests. These tests shall include determination of BOD, suspended solids, and chlorine residual.

B. Welding Practices and Procedures. The following requirements shall apply to all structures, including mobile drilling structures, as applicable. The period of time during which these requirements are considered applicable to mobile drilling structures is the interval from the drilling out of the shoe of the conductor casing until the BOP stack and the marine riser are pulled in the process of final abandonment or suspension. For the purpose of this Order the term "welding and burning" is defined to include arc or acetylene welding and arc or acetylene cutting.

- (1) All welding and burning shall be minimized.
- (2) Such welding or burning as is necessary, on a structure, shall adhere to the following practices:
 - (a) Welding or burning on the structure should be done in an approved, properly functioning welding room; however, all welding and burning that is required but that cannot be prudently done in the welding room, shall be performed in compliance with the procedures outlined below.
 - (b) Prior to the commencement of any burning or welding operations, on a structure, the senior person in charge at the installation shall personally inspect the area in which the work is to be done. After this person has determined that it is safe to proceed, he shall issue a written authorization for the work. If both drilling and production operations are being conducted on the structure, the senior drilling man and the senior production man shall make this inspection and both shall sign it.

- (c) A copy of each welding or burning authorization shall be maintained on the structure for a period of one year. These authorizations shall be made available, for inspection, to any authorized representative of the Geological Survey.
- (d) During all welding or burning operations, one or more persons as necessary shall be designated as a "fire watch". Persons assigned to "fire watch" shall have no other duties while so assigned.
- (e) The "fire watch" shall wear an item of distinctive clothing (vest or coat) for identification purposes and shall have in his immediate possession a portable gas detector and a portable fire extinguisher.
- (f) If welding or burning must be done on containers, tanks, or other vessels which have contained a flammable substance, these objects shall be thoroughly cleaned and rendered free of such flammable substance before the work begins.
- (g) If welding or burning must be done on in-service or connected-up piping, that section of pipe shall be isolated by tightly closed valves, blind flanges, or other suitable means, bled to atmospheric pressure, and thoroughly purged and cleaned to render it free of any flammable substance.
- (h) If welding or burning must be done in confined spaces, the space shall be adequately vented and a continuous source of fresh air shall be supplied while work is in progress. If the fresh air is supplied by blowers, they shall be so positioned that the intakes will not pick up exhausted gases, fumes, or vapors.
- (i) If any welding or burning is done on bulkheads, decks, or overheads, the adjacent, overlying, or underlying spaces shall be examined to determine that it is safe for the work to proceed. If deemed advisable, a second "fire watch" shall be employed in the contiguous area.

- (j) If any welding or burning must be done on structural members, it shall be determined by a competent authority that such welding or burning does not endanger the integrity of the structure.

D.W. Solanas

D. W. Solanas
Supervisor

Approved: June 1, 1971

Russell G. Wayland

Russell G. Wayland
Chief, Conservation Division

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION DIVISION
BRANCH OF OIL AND GAS OPERATIONS
PACIFIC REGION

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS
LEASES IN THE OUTER CONTINENTAL SHELF, PACIFIC REGION

APPROVAL PROCEDURE FOR PIPELINES

This Order is established pursuant to the authority prescribed in 30 CFR 250.11 and in accordance with 30 CFR 250.19(b). Section 250.19(b) provides as follows:

- (b) The supervisor is authorized to approve the design, other features, and plan of installation of all pipelines for which a right of use or easement has been granted under paragraph (c) of section 250.18 or authorized under any lease issued or maintained under the act, including those portions of such lines which extend onto or traverse areas other than the Outer Continental Shelf.

The operator shall comply with the following requirements. Platforms, fixed structures, and artificial islands are hereinafter referred to as structures. This Order does not apply to common carrier pipelines except as to that portion connected to or crossing a structure. Any departures from the requirements specified in this Order shall be subject to approval pursuant to 30 CFR 250.12(b).

1. General Design. All pipelines shall be designed and maintained in accordance with the following:

- A. The operator shall be responsible for the installation of the following control devices on all oil and gas pipelines connected to a structure, including pipelines which are not operated or owned by the operator. Operators of structures installed prior to the effective date of this Order shall comply with the requirements of subparagraphs (1) through (6) within 6 months of the effective date of this Order. The operator shall maintain records on the structure or facility showing the present status and past history of each device, including dates and details of inspection, testing, repairing, adjustment, reinstallation or replacement.

- (1) All oil and gas pipelines leaving a structure receiving production from the structure shall be equipped with a high-low pressure sensor to shut in the wells on the structure.
- (2) All oil and gas pipelines delivering production to either offshore or onshore production facilities, or both, shall be equipped with an automatic shut-in valve, at or near the receiving facility, connected to an automatic and a remote shut-in system.
- (3) All oil and gas pipelines coming onto a structure or delivering production to an onshore facility shall be equipped with a check valve or a quick-operating manual valve, as approved by the Supervisor, at or near the structure or facility to control backflow.
- (4) All oil and gas pipelines crossing a structure which do not deliver production to the structure, but which may or may not receive production from the structure, shall be equipped with sensors to activate an automatic shut-in valve to be located in the upstream portion of the pipeline at or near the structure to avoid uncontrolled flow at the structure. This automatic shut-in valve shall be connected to either the structure automatic and remote shut-in system or to an independent remote shut-in system.
- (5) All oil pumps and gas compressors shall be equipped with high-low pressure shut-in devices.
- (6) All oil pipelines shall have a metering system to provide a continuous volumetric comparison of input to the line at the structure, or structures, with deliveries onshore. The system shall include an alarm system and shall be of adequate sensitivity to detect significant variations between input and discharge volumes. In lieu of the foregoing, any system capable of detecting small leaks in the pipeline may be substituted with the approval of the Supervisor.

B. All oil and gas and other pipelines shall be protected from loss of metal that would endanger the strength and safety of the lines by methods such as protective coatings or cathodic protection.

- C. All oil and gas and other pipelines shall be installed and maintained to be compatible with trawling operations and other uses.
 - D. All oil and gas and other pipelines shall be hydrostatically tested to 1.25 times the designed working pressure for a minimum of 2 hours prior to placing the line in service.
 - E. All oil and gas pipelines shall be maintained in good operating condition at all times and the ocean surface above the pipeline shall be inspected a minimum of once each week for indication of leakage using aircraft, floating equipment or other means. Records of these inspections including the date, methods, and results of each inspection shall be maintained by the operator and submitted to the District Engineer annually by April 1. The operator shall immediately notify the District Engineer of any pipeline leak and within one week shall submit a report to him with respect to the cause, effect, and remedial action taken.
 - F. All oil and gas and other pipelines shall be designed and maintained for protection against water currents, storm scouring, soft bottoms, and other environmental factors.
 - G. An external inspection of all pipelines by side scan sonar or other means acceptable to the Supervisor shall be made at least once each year to identify all exposed portions of pipelines. All exposed portions of pipelines shall then be inspected in detail by photographic or other means acceptable to the Supervisor to determine if any hazards exist to the line or other users of the area. If a hazard is found to exist, appropriate corrective action shall be taken. Records of these inspections including the date, methods, and results of each inspection, shall be maintained by the operator and submitted to the District Engineer when the records become available.
2. Application. The operator shall submit in duplicate the following to the District Engineer for forwarding and approval by the Supervisor:
- A. Drawing on a plat or plats showing the major features and other pertinent data including: (1) water depth, (2) route, (3) location, (4) length, (5) connecting facilities, (6) size, and (7) burial depth, if buried.

B. A schematic drawing showing the location of the following pipeline safety equipment and the manner in which the equipment functions: (1) high-low pressure sensors, (2) automatic shut-in valves, (3) check valves, and (4) the volumetric metering system.

C. General information concerning the pipeline including the following:

- (1) Product or products to be transported by the pipeline.
- (2) Size, weight and grade of the pipe.
- (3) Length of line.
- (4) Maximum water depth.
- (5) Type or types of corrosion protection.
- (6) Description of protective coating.
- (7) Bulk specific gravity of line (with the line empty).
- (8) Anticipated gravity or density of the product or products.
- (9) Design working pressure and capacity.
- (10) Maximum working pressure and capacity.
- (11) Hydrostatic pressure and hold time to which the line will be tested after installation.
- (12) Size and location of pumps and prime movers.
- (13) Any other pertinent information as the Supervisor may prescribe.

3. Completion Report. The operator shall notify the District Engineer when installation of the pipeline is completed and submit a drawing, in duplicate, showing the location of the line as installed, accompanied by all hydrostatic test data, including procedure, test pressure, hold time, and results.

D.W. Solanas

D. W. Solanas
Supervisor

Approved: June 1, 1971

Russell G. Wayland

Russell G. Wayland
Chief, Conservation Division

June 1, 1971

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION DIVISION
BRANCH OF OIL AND GAS OPERATIONS
PACIFIC REGION

NOTICE TO PERMITTEES OF TWIN CORE HOLE PERMITS
IN THE OUTER CONTINENTAL SHELF, PACIFIC REGION

DRILLING OF TWIN CORE HOLES

The Secretary of the Interior on November 3, 1965, approved the drilling of core holes on unleased lands of the Outer Continental Shelf off the coast of Southern California (30 Federal Register No. 218, Nov. 10, 1965). Authority was delegated to the Regional Oil and Gas Supervisor of the U. S. Geological Survey to approve the drilling of such wells provided (1) the core hole to be drilled is located within 100 feet of a well heretofore drilled under a State permit, or such greater distance from such a well as the Supervisor may prescribe where the prior drilled well is less than three geographical miles from the coastline, (2) the maximum depth to which a core hole may be drilled shall be the depth of the prior drilled well, (3) the approvals to drill core holes granted by the Supervisor shall be conditioned upon compliance with the regulations in 30 CFR Part 250, and such other reasonable requirements as he may prescribe, and (4) no approval to drill shall be granted until the applicant has posted an acceptable corporate surety bond in the amount prescribed in 43 CFR 3304.1, conditioned on compliance with all the requirements set forth in the permits to drill granted by the Supervisor.

In addition to the above, the permittee shall comply with the following requirements:

1. OCS Orders No. 1, 2, 3, 7, and 8 are hereby made applicable to core drilling operations.
2. An application for a general permit to conduct core drilling shall have been filed for approval prior to the filing of any applications to drill specific core holes.
3. A \$300,000 corporate surety bond (Form 3380-3) covering Pacific Coast OCS operations shall have been filed.
4. Each application to drill a core hole (Form 9-331C in triplicate) shall be held in an open file in the Supervisor's office for 15 days after filing before approval may be granted. Only the application shall be considered public information.

5. The permittee shall: (a) obtain or have a geological survey blanket permit from the State to drill core holes within State waters, (b) obtain appropriate permission from the Army Corps of Engineers for the location of drilling ships (as provided in the Secretary of the Interior's Notice in 18 FR No. 186, Sept. 23, 1953).
6. All core hole locations shall be described by the Lambert Coordinate System for reference purposes applicable to the location in which it falls.
7. In each application to drill a twin core hole, the original State-permitted core hole shall be identified.
8. The permittee shall file a statement as to the exact location of the surface of the approved core hole and certify that it is within 100 feet of the original core hole at such time as drilling commences.
9. No directionally drilled core holes will be permitted.
10. Mud log and gas detector equipment shall be in operation while drilling below the shoe of the surface casing on twinned holes and below the shoe of the conductor casing on core holes offsetting the three-mile line not being drilled as a twin.
11. No down-hole formation fluid sampling equipment shall be operated at any time.
12. Conventional coring will be permitted either to total approved depth or such lesser depth as prescribed by the Supervisor provided the permittee of the original core hole being twinned has not filed an affidavit with the Supervisor stating that no conventional coring had been conducted in the original core hole. Sidewall sample coring may be conducted in that part of the hole in which an electric log has been run. Upon completion of operations the permittee shall file with the Supervisor a duly attested duplicate copy of the contractor's original log (tour sheet).
13. The permittee shall advise the District Engineer, Geological Survey, at least 48 hours prior to the drilling and reaching of the approved total depth. The "measuring out" of drill pipe at total depth will be witnessed by the District Engineer or his representative.

14. The permittee shall not commence any abandonment operations prior to obtaining written approval from the District Engineer, Geological Survey. Abandonment of the core hole and clearing of the location of all obstructions on the ocean floor shall be witnessed by a representative of the Geological Survey.
15. Such other requirements as shall be prescribed in the general permit or the specific approved core hole application, or at any time such additional requirements are deemed necessary by the Supervisor or his representative.

D.W. Solanas

D. W. Solanas
Supervisor

Approved: June 1, 1971

Russell G. Wayland

Russell G. Wayland
Chief, Conservation Division

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